



PATENT
7863-84347

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants: Johannes BRUSKE et al. Confirmation: 7521
Serial No.: 10/539,293 Group Art Unit: 3765
Filed: June 16, 2005 Examiner: R. H. Muromoto, Jr.
For: SHAFT FRAME AND HEDDLE SHAFT FOR POWER LOOMS

BRIEF ON APPEAL

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

December 5, 2008

Sir:

Further to the Notice of Appeal filed August 11, 2008, appealing the decision of the Examiner finally rejecting claims 7-9 and 12-16, attached is Appellants' Brief on Appeal in connection with the above-identified application. Please charge the \$540 fee for submitting the brief to counsel's Deposit Account No. 06-1135.

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REAL PARTY IN INTEREST

The real party in interest is GROZ-BECKERT KG, the assignee of record in connection with the present application on appeal.

RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF CLAIMS

The following is the status of the claims in the present application on appeal:

Claim 1:	Cancelled
Claim 2:	Cancelled
Claim 3:	Cancelled
Claim 4:	Cancelled
Claim 5:	Cancelled
Claim 6:	Cancelled
Claim 7:	Rejected
Claim 8:	Rejected
Claim 9:	Rejected
Claim 10:	Cancelled
Claim 11:	Cancelled
Claim 12:	Rejected
Claim 13:	Rejected
Claim 14:	Rejected
Claim 15:	Rejected
Claim 16:	Rejected

Claims 7, 8, and 9 are each independent claims, with pending claims 12 and 15 depending from claim 7, pending claim 13 depending from claim 8, and pending claims 14 and 16 depending from claim 9.

STATUS OF AMENDMENTS

An Amendment was filed on July 11, 2008, and was entered in the Advisory Action mailed July 25, 2008. No other amendments have been filed subsequent to issuance of the final Office Action.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to a shaft frame for a power loom having a novel heddle support rail. As shown, for example in Fig. 1 of the present application, such shaft frames (2) which is moved back and forth at a high speed, are normally provided with two spaced parallel support rails (7, 8), on which a plurality of heddles (3) are mounted, with each of the rails extending into a respective eyelet (5, 6) formed in the head or end of each heddle, as described in paragraph 26 of the present application. In modern day power looms, the accelerations and braking forces during the back and forth movement are so great that the heddles(3), which as a rule are held with some play on the shaft frame (2), hit their bearings and dig in there. This process generates noise and wear and puts limits on the operating speed of a power loom. Accordingly, it is desirable to reduce the play between the heddles and the support rails (see paragraphs 3-6 Of the present application).

According to the presently claimed invention as defined in each of the independent claims 7-9, this reduction in play is achieved by providing the shaft frame with a novel heddle support rail (7) as shown in Figs 4-7 of the present application.

According to the embodiment of the invention shown in Figs. 4 and 5, and defined in claim 7, at least one of the two heddle support rails (7, 8) is itself comprised of two rail portions (7a and 7b) formed as two resilient spring legs that point away from each other, i.e., extend in opposite directions, as discussed in paragraph 42. The two rail portions (7a and 7b) both extend into a single end eyelet (5) of a heddle (3), as can clearly be seen in Fig. 5, in order to support a heddle in a resilient manner. The two rail portions or spring legs (7a, 7b) are each generally C-shaped and are disposed

symmetrically to one another relative to a horizontal plane (H) as can be seen in Fig. 4 and as described in paragraph 42.

Alternatively, according to the embodiment of Fig. 7, as defined in claim 9, at least one of the heddle support rails (7, 8), i.e., the heddle support rail 7, is divided into two parts (51, 55) which are diametrically opposed to one another and supported on the beam (46) connected to the frame (2). One part (51) is rigidly supported on the beam (46), and the other part (55) is movably supported on the beam (46) against the force of a compression spring (56) as described in paragraph 44 of the present application. The two parts or portions (51, 55) of the support rail are each a jib or support for insertion into a single end eyelet of a heddle. As can be seen in Fig. 7, the two parts (51, 55) are each generally U-shaped, with each having its longer leg, e.g., leg 53 of part 55, supported on the beam (46). As can be appreciated, the spring (56) will tend to spread the two parts (51, 55) apart in order to engage the interior of the end eyelet of the heddle and thus reduce any play.

Independent claim 8 is generic to both of the embodiments shown in Figs. 4-7 and requires that the support rail (7 or 8) be formed of two diametrically opposed receiving jibs or parts (7a, 7b or 51, 55) for extending into a single eyelet of a heddle without play, with the two opposed receiving jibs or parts being tensed resiliently away from each other, i.e., as a result of the oppositely directed spring legs (7a, 7b) of Fig. 4 or by the spring (56) of Fig. 7.

Both embodiments of the single heddle support rail according to the Figs 4-7 of the present application, and which extend into a single end eyelet of a heddle, will

dampen impacts and shocks created by the heddles moving on the heddle rail due to sharp acceleration and deceleration during operation.

GROUND OF REJECTION

There is one ground of rejection, that is, whether claims 7-9 and 12-16 are anticipated under 35 U.S.C. §102(b) by Nussbaum (U.S. 3,071,164).

ARGUMENT

Rejection of claims 7-9 and 12-16 under 35 U.S.C. §102(b) In view of the patent to Nussbaum

The patent to Nussbaum discloses a frame having a upper and lower spaced heddle support rails (2) that are fastened to respective support rods (1) by respective flange portions (1a) to the frame support rods (1). Each support rail (2) is received in a respective separate end eyelet or hook (6a) of a heddle (6) to maintain the heddle on the frame in the usual manner. In order to properly retain the heddles on the two rails (2) without play, the rails (2) are mounted so that they are moveable relative to one another, with at least one of the rails (2) being moveably mounted on the flange portion (1a) and biased by a spring (9) as shown in Fig. 6. As a result, heddles can be mounted on the rails without play. However, the manner of doing so is completely different than that recited in claims 7-9 and shown in Figs.4-7 of the present invention. No single heddle support rail having two parts tht engage in a single end eyelet of a heddle to engage same without play is taught or made obvious by the Nussbaum patent. In fact, the Nussbaum patent does not even teach a two part support rail as defined in each of claims 7-9, and clearly do not teach the novel support rail defined in these claims. The arrangement of Nussbaum more closely resembles the arrangement shown in Fig. 1 of the present application, which is not the subject of the claims on appeal.

CLAIM 7

Claim 7 requires that at least one of the heddle support rails, e.g., rail 7, extends into a single end eyelet of a heddle and is supported on the frame in a stationary manner, i.e., not moveable relative to the frame. Moreover claim 7 requires that the single support rail be formed of two support rail portions that are formed as resilient spring legs pointing away from one another, i.e., pointing in opposite directions. In the Nussbaum patent there initially is no single rail that is formed of two parts that extends into a single end eyelet of a heddle. The only rail embodiment of Nussbaum that could even conceivably be considered to have two parts is the embodiment of Fig10, which has two hooks 16 extending parallel to one another. However, these hooks 16 each engage in the end eyelet of a different heddle or at least the separate end eyelet of a compound heddle. Moreover, it is clear that the two hooks 16 of Fig. 10 are not resilient spring legs and do not point away from each other as likewise required by claim 7. In fact none of the embodiments of Nussbaum discloses a support rail having any resilient portion of a rail itself as required by claim 7. Note that with the present invention, with the rail including spring like elements 7a, 7b as shown in Fig. 4, the effective height of the individual rail 7 will change with the flexing of the members 7a, 7b. Such is clearly not the case in Nussbaum which does not disclose any flexible two part rail as required by claim 7. Accordingly, it is submitted that for the above stated reasons, claim 7 and claim 12 dependent thereon are allowable over Nussbaum under 35 U.S.C §102.

Claim 15

Claim 15 is dependent on claim 7 and thus is initially submitted to be allowable for at least the same reasons as that claim. Claim 15 further requires that the spring legs (7a, 7b) be generally C-shaped as can be seen in Fig. 4, with both spring legs, which are pointing away from one another, being disposed symmetrically to one another relative to a horizontal plane. Such is clearly not the case according to Nussbaum even if one could consider the shape of the hooks of Nussbaum to be C-shaped. The two hooks of Nussbaum, which do not point away from one another, are moreover not symmetrical with regard to a horizontal plane but with regard to a vertical plane. Accordingly, for these additional reasons, claim 15 is submitted to be allowable over Nussbaum under 35 U.S.C. 102.

CLAIM 8

Independent claim 8, which is generic to both claimed embodiments shown in Figs. 4-7, requires that the heddle support rail, e.g., 7, that extends into a single heddle end eyelet 5 of a heddle without play is formed of two diametrically opposed receiving jibs or parts 7a, 7b in Figs. 4 and 5 or 51, 55 in Figs. 5 and 6, with the two opposed receiving jibs or parts being tensed resiliently away from each other, i.e., as a result of the oppositely directed spring legs 7a, 7b of Fig. 4 or by the spring 56 of Fig. 7. No corresponding structure is found in Nussbaum. Again, the only embodiment of Nussbaum wherein the heddle support rail has two parts is that of Fig. 10. Even if this arrangement could be considered as extending into a single end eyelet of a heddle, it does not do so without play, and clearly does not have two parts that are tensed

resiliently away from each other. In fact the two hooks 16 of Nussbaum are not in any way tensed with regard to one another. Accordingly, it is submitted that for the above stated reasons, claim 8 and claim 13 dependent thereon are allowable over Nussbaum under 35 U.S.C §102.

CLAIM 9

Independent claim 9 is directed to the embodiment shown in Figs. 6 and 7, and requires that the heddle support rail, e.g., 7, that extends into a single heddle end eyelet 5 of a heddle without play is formed of two diametrically opposed receiving jibs or parts 51, 55, with one of the parts 55 being rigidly on a beam 46 connected to the shaft frame 2 and the other jib 51 being supported movable on the beam 46 counter to at least one spring element 56. No corresponding structure is found in Nussbaum. Again, the only embodiment of Nussbaum wherein the heddle support rail has two parts is that of Fig.10. Even if this arrangement could be considered as extending into a single end eyelet of a heddle, and even if the two hooks 16 could in some way for the sake of argument be considered to be diametrically opposed, neither of the hooks 16 is moveably supported on a beam connected to the frame, nor is there any spring element, all as required by claim 9. Rather, both hooks 16 are rigidly supported on the beam connected to the frame. Accordingly, it is submitted that for the above stated reasons, claim 9 and claim 14 dependent thereon are allowable over Nussbaum under 35 U.S.C §102.

CLAIM 16

Claim 16 is dependent on claim 9 and thus initially is submitted to be allowable over Nussbaum under 35 U.S.C. 102 for the same reasons as that claim. Additionally, claim 9 recites that the two parts or jibs 51, 55 of the single heddle support rail 7 are each generally U-shaped and each has one longer leg, e.g., the longer leg 53 of part 55, supported on the beam, and that the spring 56 is a compression spring. Even if the two hooks of Nussbaum could be considered to have the recited shape, there clearly in no compression spring acting on a moveable part as required by claim 16. Accordingly, for this additional reason, it is submitted that claim 16 is allowable over Nussbaum under 35 U.S.C. 102.

CONCLUSION

For the above-stated reasons, it is submitted that all of the pending claims, i.e., claims 7-9 and 12-16, are allowable over the Nussbaum patent under 35 U.S.C. 102 and are in condition for allowance. Therefore, the reversal of the Examiner's final rejection and allowance of these claims is respectfully requested.

Respectfully submitted,

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CLAIMS APPENDIX

1. Cancelled
2. Cancelled
3. Cancelled
4. Cancelled
5. Cancelled
6. Cancelled

7. A shaft frame, for power looms, having at least one heddle support rail, which is resiliently supported or has a resiliently supported portion, for receiving one or more heddles by extending into a single end eyelet of each heddle; and wherein:

the at least one heddle support rail is supported in a stationary fashion on the frame and; is formed as two support rail portions, embodied as resilient spring legs, pointing away from one another.

8. A shaft frame, for power looms, having at least one heddle support rail, which is resiliently supported or has a resiliently supported portion, for receiving one or more heddles by extending into a single end eyelet of each heddle; and wherein

the at least one heddle support rail is formed of two diametrically opposed receiving jibs, which are tensed resiliently away from one another, in order to receive heddle heads without play by extending into a respective heddle end eyelet of a respective heddle.

9. A shaft frame, for power looms, having at least one heddle support rail, which is resiliently supported or has a resiliently supported portion, for receiving one or more heddles by extending into a single end eyelet of each heddle; and wherein

the at least one heddle support rail is formed of two diametrically opposed parts embodied as receiving jibs for a single end eyelet of heddle heads, of which one jib is

supported rigidly on a beam connected to the frame and the other jib is supported movably on the beam counter to at least one spring element.

10. Cancelled.

11. Cancelled.

12. The shaft frame according to claim 7, wherein the shaft frame is joined to a drive means at at least three drive points, spaced apart in the transverse direction relative to the direction of motion from one another.

13. The shaft frame according to claim 8, wherein the shaft frame is joined to a drive means at at least three drive points, spaced apart in the transverse direction relative to the direction of motion from one another.

14. The shaft frame according to claim 9, wherein the shaft frame is joined to a drive means at at least three drive points, spaced apart in the transverse direction relative to the direction of motion from one another.

15. The shaft frame according to claim 7, wherein each of the spring legs is generally C-shaped and both spring legs are disposed symmetrically to one another relative to a horizontal plane.

16. The shaft frame according to claim 9, wherein each of the jibs are generally U-shaped with one longer leg that is supported on the beam, and the spring means is a compression spring.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.